



Caterpillar Inc.  
P.O. Box 600  
Mossville, Illinois 61552

October 1, 2014

CAT201403

Mr. Justin Greuel  
Director, Diesel Engine Compliance Center  
U.S. Environmental Protection Agency  
Office of Transportation & Air Quality  
1200 Pennsylvania Ave, NW  
Washington, DC 20460

Preliminary Emissions Defect Information Report

Dear Mr. Greuel:

Pursuant to 40 CFR § 1068.501, Caterpillar Inc. has determined that certain C9.3, C13, C15, and C18 engines were built with a Clean Emissions Module (CEM) that may have an assembly error. The affected engines are from MY2013 and MY2014, engine families DCPXL09.3HTF, DCPXL12.5HTF, DCPXL15.2HTF, DCPXL18.1HTF, ECPXL09.3HTF, ECPXL12.5HTF, ECPXL15.2HTF, and ECPXL18.1HTF. This emissions defect information report contains trade secrets, proprietary, and/or company confidential information and should be treated as such under 40 CFR § 2.203(b) and § 1068.10.

A Preliminary EDIR is attached, which provides information concerning the issue and the manner in which it will be corrected.

If you have any questions or require additional information, please call.

Sincerely,

A rectangular black box used to redact the signature of the sender.

Manager, Emissions Conformance and Systems Development  
Large Power Systems Division (MOS 11)  
Caterpillar Inc.

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cc: Erik White – ARB

**PRELIMINARY EMISSIONS DEFECT INFORMATION REPORT****1) Manufacturer's corporate name and a person to contact regarding this defect:**

Caterpillar Inc.

Manager, Emissions Conformance and Systems Development

**2) Description of the defect, including a summary of any engineering analyses and associated data, if available:**

The Clean Emissions Module (CEM) contains three catalysts and one filter. The sequence of these devices in terms of gas flow from the engine is DOC > DPF > SCR1 > SCR2/AMOX. The SCR2/AMOX is a single substrate where the primary portion is SCR and the secondary is AMOX. See Figure 1 below.

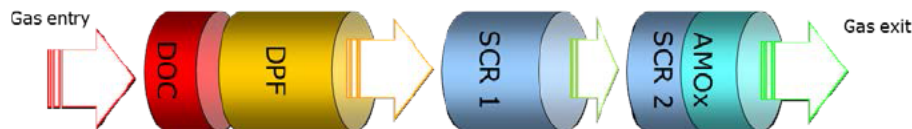


Figure 1 – Intended orientation of catalysts and filter in the CEM

It has been determined that, due to an assembly error at the CEM supplier, certain Clean Emissions Modules may have been built with the SCR2/AMOX catalyst orientated opposite to the intended direction. The actual configuration built is therefore DOC > DPF > SCR1 > AMOX/SCR2 as shown in Figure 2 below.

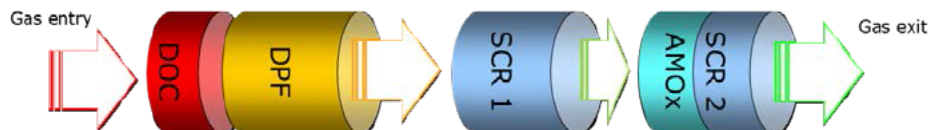


Figure 2 – As built orientation of catalysts and filter in the CEM

*The filing of a Defect Information Report pursuant to EPA regulations is not conclusive as to the applicability of the Production and Performance Warranties provided by Section 207(a) and 207(b) of the Clean Air Act, as amended, or Section 43204 of the California Health and Safety Code. Trade Secrets, Proprietary and/or Company Confidential Information Subject to Protection Under 40 CFR § 2.203(b) and § 1068.10.*

**PRELIMINARY EMISSIONS DEFECT INFORMATION REPORT****3) Description of the engine/equipment that have the defect, including families, models, and range of production dates.**

<u>Engine Family</u>	<u>Model</u>	<u>Production Dates</u>
DCPXL09.3HTF	C9.3	27Feb2013 – 31Dec2013
DCPXL12.5HTF	C13	27Feb2013 – 31Dec2013
DCPXL15.2HTF	C15	27Feb2013 – 31Dec2013
DCPXL18.1HTF	C18	14Dec2012 – 31Dec2013
ECPXL09.3HTF	C9.3	01Jan2014 – To Be Determined
ECPXL12.5HTF	C13	01Jan2014 – To Be Determined
ECPXL15.2HTF	C15	01Jan2014 – To Be Determined
ECPXL18.1HTF	C18	01Jan2014 – To Be Determined

**4i) An estimate of the number and percentage of each class or category of affected engines that have the defect, and an explanation of how you determined this number:**

Currently, the following number of engines has been affected by this defect based on the number of assembled CEM units in the date range in which Caterpillar and the supplier believe the assembly process may have been incorrect.

<u>Model Year</u>	<u>Engine Family</u>	<u>Number of Engines</u>	<u>U.S. Directed Volumes</u>	<u>Defect Percentage</u>
2013	DCPXL09.3HTF			
2013	DCPXL12.5HTF			
2013	DCPXL15.2HTF			
2013	DCPXL18.1HTF			
<u>Model Year</u>	<u>Engine Family</u>	<u>Number of Engines</u>	<u>Estimated U.S. Directed Volumes</u>	<u>Estimated Defect Percentage</u>
2014	ECPXL09.3HTF			
2014	ECPXL12.5HTF			
2014	ECPXL15.2HTF			
2014	ECPXL18.1HTF			

**4ii) Describe any statistical methods used to determine the number of affected engines:**

Counts were based on actual build data for 2013 and estimated volumes for 2014.

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**PRELIMINARY EMISSIONS DEFECT INFORMATION REPORT****5i) An estimate of the defect's impact on emissions, with an explanation of how you calculated this estimate:**

This emissions impact of this defect is still being investigated.

**5ii) Available summary of any emissions data demonstrating the impact of the defect:**

Emissions data is still being collected and evaluated regarding the impact of the defect.

**6) A description of your plan for addressing the defect or an explanation of your reasons for not believing the defects must be addressed:**

Caterpillar Inc. is working closely with the supplier and has determined that the current assembly process for CEM units has been corrected. Caterpillar is working to determine the full and complete scope of affected product and what the emissions impact may be. Caterpillar will communicate total affected population and plan for addressing the defect once our investigation is complete.

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